

1. The first step in the process is to identify the problem. This involves gathering information about the situation and understanding the needs of the stakeholders involved.

Thursday, April 21, 2011 8:20:49 AM

Accept

Abstract—The purpose of this study was to determine if there were differences in the prevalence of musculoskeletal disorders among different types of workers. The subjects included all employees of a large manufacturing company who had been employed for at least one year. A questionnaire was sent to each employee asking about symptoms of musculoskeletal disorders and work-related factors. The results showed that the prevalence of musculoskeletal disorders was higher among workers in manual jobs than among those in non-manual jobs. This finding suggests that the risk of developing musculoskeletal disorders is higher for manual workers than for non-manual workers.

Setup Start

Stop

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

Cust Item ID:[illegible]

Customer:

Reference:

Date: 1-04-21

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

[illegible]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 68747

Page 2

Thursday, April 21, 2011 8:20:49 AM

Item ID: D350-764-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Shoulder Harness

Start Date: 4/20/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 4/25/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-764-011 Location: <u>32</u> PPP Rev: <u>C</u>								
140 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

11/4/29

11/4/29

11-04-29
①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Required Date: 4/25/2011

Required Qty: 1.00

Comments: IPP REV:A New issue 07-10-11 DD verified by EC
IPP Rev:B ECN 1050 rev.B as per dwg 08-01-10 DD

Insert

Loc Code

32

Bolt

Loc Code

16

Bolt

Loc Code

93.0000

Bolt

Loc Code

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

AN960JD10 NAS1149D0363J Purchased No

110 Each

0.0000

48 48



Washer

AN960JD916

Purchased No

110 Each

0.0000

4 4



WASHER

AN970-6

Purchased No

110 Each

42.0000

4 4



Washer

Location

Loc Qty

Loc Code

ST349

42

116419

42

CCR264SS3-3

Purchased No

110 Each

155.0000

16 16



Cherry Rivet

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

153

113973

2

117086

151

CR3212-4-2

Purchased No

110 Each

107.0000

4 4



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

107

110806

7

112794

100

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist-Print

Thursday, April 21, 2011 8:20:57 AM

Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

CR3212-5-04

Purchased

No

110

Each

80.0000

4

4



Rivet

Location

Loc Qty

Loc Code

ST312

80

112082

80

CR3212-5-07

Purchased

No

110

Each

64.0000

4

4



Rivet

Location

Loc Qty

Loc Code

ST312

64

114551

64

D2854

Manufactured

No

110

f

42.3340

2.666

2.666



3/4" Velcro Strip

Location

Loc Qty

Loc Code

ST415

42.334

65116

42.334

(4X) 8.00" per dwg D2854-1/-3-080

D3578-041

Manufactured

No

110

Each

53.0000

16

16



Doubler

Location

Loc Qty

Loc Code

ST245A

53

65269

3

68204

50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Picklist Print

Thursday, April 21, 2011 8:20:57 AM

Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D3636-041



Shoulder Harness

Manufactured No

110 Each

4.0000

4

4

Location

Loc Qty

Loc Code

ST266

4

66116

4

D3637-041



Bracket Assembly

Manufactured No

110 Each

15.0000

4

4

Location

Loc Qty

Loc Code

ST245A

15

66859

15

D3637-3



Bracket

Manufactured No

110 Each

2.0000

4

4

Location

Loc Qty

Loc Code

ST245A

2

64768

2

D3638-1



Bushing

Manufactured No

110 Each

18.0000

4

4

Location

Loc Qty

Loc Code

ST244

18

64305

6

67013

12

D3639-1



Doubler

Manufactured No

110 Each

5.0000

1

1

Location

Loc Qty

Loc Code

ST244

5

64820

5

Thursday, April 21, 2011 8:20:58 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Picklist Print

Thursday, April 21, 2011 8:20:58 AM

Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D3639-2



Doubler

Manufactured No

110 Each

8.0000

1

1

Location

Loc Qty

Loc Code

ST244

8

64823

8

110 Each

8.0000

1

1

D3639-3



Doubler

Manufactured No

Location

Loc Qty

Loc Code

ST244

8

64824

8

110 Each

8.0000

1

1

D3639-4



Doubler

Manufactured No

Location

Loc Qty

Loc Code

ST244

8

58830

1

64819

7

110 Each

4.0000

2

2

D3640-1



Belt Guide

Manufactured No

Location

Loc Qty

Loc Code

ST244

4

66768

4

110 Each

4.0000

2

2

D3640-3



Belt Guide

Manufactured No

Location

Loc Qty

Loc Code

ST243

4

66769

4

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Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

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Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

S D3641-1
Cover

Manufactured No

110 Each

4.0000 2

Location

Loc Qty

Loc Code

ST260

4

64812

4

S D3641-3
Cover

Manufactured No

110 Each

7.0000 1

Location

Loc Qty

Loc Code

ST260

7

64817

7

S D3641-4
Cover

Manufactured No

110 Each

6.0000 1

Location

Loc Qty

Loc Code

ST260

6

64818

6

S D3642-1
Doubler

Manufactured No

110 Each

9.0000 2

Location

Loc Qty

Loc Code

ST244

9

64306

9

S D3643-1
Stiffener

Manufactured No

110 Each

6.0000 1

Location

Loc Qty

Loc Code

ST244A

6

58834

1

60580

5

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Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr.	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Picklist Print

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Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness

Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

D3643-2

Manufactured No

110 Each

2.0000

1



Stiffener

Location

Loc Qty

Loc Code

ST244A

2

58350

2

Manufactured No

110 Each

10.0000

2

D3644-1



Shim

Location

Loc Qty

Loc Code

ST244A

10

66776

10

Manufactured No

110 Each

9.0000

1

D3657-1



Guide Tool

Location

Loc Qty

Loc Code

ST244A

9

64821

9

Purchased No

110 Each

2,867.000

32

MS20426AD3-3



Rivet

Location

Loc Qty

Loc Code

ST316

2867

19099

2867

Purchased No

110 Each

3,041.000

106

MS20426AD4-4



Rivet

Location

Loc Qty

Loc Code

ST317

3041

116188

3041

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

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Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness



Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

MS20426AD4-6

Purchased

No

110

Each

1,204.000

28

28



Rivet

Location

Loc Qty

Loc Code

ST317

1204

110139

1204

110

Each

3,245.000

8

8

MS20470AD4-6

Purchased

No



Rivet, Universal Head

Location

Loc Qty

Loc Code

ST319

3245

116391

215

117395

3030

110

Each

66.0000

16

16

MS21059L3

Purchased

No



Nut Plate

Location

Loc Qty

Loc Code

ST301

60

117423

60

ST302

6

116706

6

110

Each

54.0000

8

8

MS21072-L3

Purchased

No



Nutplate

Location

Loc Qty

Loc Code

ST302

50

117343

50

ST303

4

116188

4

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr.	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Thursday, April 21, 2011 8:20:59 AM

Work Order ID: 68747

Parent Item: D350-764-011

Parent Item Name: Shoulder Harness



Start Date: 4/20/2011

Required Date: 4/25/2011

Start Qty: 1.00

Required Qty: 1.00

MS35207-267

Purchased

No

110

Each

98.0000

8

8



Screw



11/4/2011

Location

Loc Qty

Loc Code

ST295

98

117395

98

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

5.0 PARTS LISTS

QTY -011	Dart Part Number	Geneva Part Number	Description
X	D350-764-011	P131	Shoulder Harness Kit
4	D2854-1-080	N/A	VELCRO STRIP
4	D2854-3-080	N/A	VELCRO STRIP
16	D3578-041	N/A	DOUBLER
4	D3636-041	N/A	SHOULDER HARNESS
4	*D3636-11	G10601-2	SHOULDER BELT
4	*D3636-13	G10601-4	LAP BELT
4	D3637-041	G10602-1	BRACKET ASSEMBLY
4	D3637-3	G10609-1	BACKER PLATE
4	D3638-1	G10608-2	BUSHING
1	D3639-1	G10604-3	DOUBLER
1	D3639-2	G10604-6	DOUBLER
1	D3639-3	G10604-4	DOUBLER
1	D3639-4	G10604-5	DOUBLER
2	D3640-1	G10605-1	BELT GUIDE
2	D3640-3	G10605-2	BELT GUIDE
2	D3641-1	G10606-3/-6	COVER
1	D3641-3	G10606-5	COVER
1	D3641-4	G10606-4	COVER
2	D3642-1	G10607-1/-2	DOUBLER
1	D3643-1	G10610-2	STIFFENER
1	D3643-2	G10610-1	STIFFENER
2	D3644-1	G10610-3	SHIM
1	D3657-1	G12170	GUIDE TOOL
16	ALS4-1032-130	N/A	INSERT
32	AN3-3A	N/A	BOLT
16	AN3-6A	N/A	BOLT
4	AN4-10A	N/A	BOLT
48	AN960JD10	N/A	WASHER
4	AN960JD916	N/A	WASHER
4	AN970-6	N/A	WASHER
16	CCR264SS-3-03	N/A	RIVET
4	CR3212-4-02	N/A	RIVET
4	CR3212-5-04	N/A	RIVET
4	CR3212-5-07	N/A	RIVET
32	MS20426AD3-3	N/A	RIVET
106	MS20426AD4-4	N/A	RIVET
28	MS20426AD4-6	N/A	RIVET
8	MS20470AD4-6	N/A	RIVET
16	MS21059L3	N/A	NUTPLATE (OR MS21059-3)
8	MS21072L3	N/A	NUTPLATE (OR MS21072-3)
8	MS35206-267	N/A	SCREW

*Included with D3636-041

